Reply to Yang et al.'s comment

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This is to reply to a recent comment by Yang, Yuan and Zhang on "Teleportation of two-quNit entanglement: Exploiting local resorces".

The authors of the recent comment [1] have taken their patience to recheck the calculation in [2] on "Teleportation of two-quNit entanglement: Exploiting local resorces". However, Method 1 in [1] would not be necessary.

The simplest way to make all the formulae in [2] remain valid is just to do the exchange of indices $3 \leftrightarrow 4$ in the whole text of [2].

Or, as also noticed in [1] (Method 2), one needs just replace X (Y) by Y (X) in the definition (9) in [2], without making the exchange $3 \leftrightarrow 4$. In the latter option, the states $|\Phi_{mn}\rangle_{13}$, with $m = 1, 2$ and $n = 0, 1, 2$, above Eq. (2) in [2] should be changed to

$$|\Phi_{10}\rangle_{13} = \frac{1}{\sqrt{3}}(e^{-\frac{2\pi i}{3}}|20\rangle + e^{\frac{2\pi i}{3}}|11\rangle + |02\rangle)_{13},$$

$$|\Phi_{11}\rangle_{13} = \frac{1}{\sqrt{3}}(e^{\frac{2\pi i}{3}}|10\rangle + |01\rangle + e^{-\frac{2\pi i}{3}}|22\rangle)_{13},$$

$$|\Phi_{12}\rangle_{13} = \frac{1}{\sqrt{3}}(|00\rangle + e^{-\frac{2\pi i}{3}}|21\rangle + e^{\frac{2\pi i}{3}}|12\rangle)_{13},$$

$$|\Phi_{20}\rangle_{13} = \frac{1}{\sqrt{3}}(e^{\frac{2\pi i}{3}}|20\rangle + e^{-\frac{2\pi i}{3}}|11\rangle + |02\rangle)_{13},$$

$$|\Phi_{21}\rangle_{13} = \frac{1}{\sqrt{3}}(e^{-\frac{2\pi i}{3}}|10\rangle + |01\rangle + e^{\frac{2\pi i}{3}}|22\rangle)_{13},$$

$$|\Phi_{22}\rangle_{13} = \frac{1}{\sqrt{3}}(|00\rangle + e^{\frac{2\pi i}{3}}|21\rangle + e^{-\frac{2\pi i}{3}}|12\rangle)_{13}.$$

This Reply, thanks to [1], could also serve as an Erratum to [2].

[1] J. Yang, H. Yuan and Z. J. Zhang, quant-ph/0611184.
[2] Nguyen Ba An, Phys. Leet. A 341 (2005) 9.

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